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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,436	11/28/2003	Sang Young So	0630-1875P	7374
2292	7590	09/18/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			BOLLINGER, DAVID H	
PO BOX 747				
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			3653	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/722,436	SO, SANG YOUNG
	<b>Examiner</b>	<b>Art Unit</b>
	David H. Bollinger	3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 November 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>3/21/05 &amp; 10/12/05</u>	6) <input type="checkbox"/> Other: _____.

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8 through 10, 11 through 24, 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8 line 6, the recitation "the RVDT sensor" lacks antecedent basis, therefore; it is not clearly understood how the RVDT is related to the various other limitations of claim 8 and the claims from which claim 8 depends.

Claim 9 is indefinite because it depends from itself. Accordingly, it is not clearly understood what limitations are to be included in claim 9.

Claim 10 is indefinite as a result of its dependence from claim 9.

Claims 11 through 14 are indefinite because they do not clearly recite a step in the method. Accordingly, it is clearly understood what steps these claims encompass.

In claim 15 line 5, the recitation "the cassette" lacks antecedent basis.

Accordingly, it is not understood how the cassette relates to the various limitations of claim 15 and the claims from which claim 15 depends.

Claim 16 is indefinite because it does not state from which claim it depends, therefore; it is unclear what limitations are to be included in claim 16.

Claims 17 and 18 are indefinite as a result of their dependency from claim 16.

Claims 19 through 24 are indefinite as a result of their dependency either directly or indirectly from claim 15.

In claim 29 line 2, the recitation "the RVDT (Rotary Variable Differential Transducer) sensor" lacks antecedent basis.

In claim 30 line 2, the recitation "the RVDT (Rotary Variable Differential Transducer) sensor" lacks antecedent basis.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, 7, 12, 13 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (cited by applicant).

Chang et al teaches a media sensing method comprising: setting an initial reference range and comparing the initial reference range with a reference range of currently discharged media; and variably setting (updating) a new initial reference range on the basis of the comparison value (see column 2 lines 7-16).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Uchiyama and Eck et al.

Chang et al as interpreted above in paragraph 4 teaches everything except employing a digital potentiometer through which initial reference range is set.

Uchiyama teaches employing a potentiometer 54 (shown as an analog potentiometer in Figure 1) to detect information regarding a sheet media, but does not specifically teach a digital potentiometer. Eck et al teaches that digital potentiometers are substituted for analog potentiometers for various reasons (see Eck et al page 1 paragraph 0002).

It would have been obvious to one of ordinary skill in the art to employ a digital potentiometer to measure the thickness of the media in Chang et al in view of the teachings of Uchiyama to use a potentiometer and Eck et al that digital potentiometers may be substituted for an analog potentiometer because to the various size, cost and ease of use.

7. Claims 6, 8, 15, 19-23, 25-27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Uchiyama and Davis et al.

Chang et al as interpreted above in paragraph 4 teaches everything except employing a rotary variable differential transducer (RVDT) to measure the thickness of the media.

Uchiyama teaches employing a potentiometer 54 to measure thickness of sheet media by measuring the angular displacement of arm 50.

Davis et al teaches that it is well known to employ a RVDT to measure mechanical angular displacement (see column 1 lines 10-16).

In view of the teachings of Uchiyama it would have been obvious to employ an electrical transducer (the potentiometer) to measure the thickness of the media by angular displacement of an arm in Chang et al. Further, it would have obvious

to one of ordinary skill in the art to have the electrical transducer be a RVDT in view of the teachings of Davis et al that a RVDT is commonly used to measure such angular displacement.

8. Claim 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
9. The failure by the examiner to apply prior art to claims 11, 14 and 16 through 18 should not be construed as an indication of allowable subject matter since the examiner is unable to fully ascertain the scope of these claims in view of the above rejection under 35 USC 112 second paragraph.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Bollinger whose telephone number is 571-272-6935. The examiner can normally be reached on Monday through Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey, can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 3653

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*David H. Bollinger*  
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Primary Examiner  
Art Unit 3653  
9/14/06